M/029/0008
cc: Leslie
Task: 4685

Notice of Intention

To Begin a Large Mining Operation

Geneva Rock Products, Inc.

Morgan Quarry

DOGM NO. M/029/0008

Submitted by:

Geneva Rock Products, Inc.
1565 W. 400N.
Orem, UT 84057

To:

Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84114-580

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DIV. OF OIL, GAS & MINING

Appendices

R647-4-101 – Filing Requirements and Review Procedures

This Notice of Intent (NOI) is submitted to the Utah Division of Oil, Gas, and Mining (DOGM) in compliance with R647-4 of the Utah Minerals Reclamation Program by Geneva Rock Products, Inc. The proposed mining operation is located in Morgan County, Utah on an approximately 53-acre parcel(s) owned by Geveva. This aggregate production facility (Facility) is a proposed limestone blasting operation.

R647-4-102 – Duration of the Notice of Intent (NOI)

It is understood by Geneva that, when approved, this NOI, including any subsequently approved amendments or revisions, remain in effect for the life of the mine. It is understood by Geneva that DOGM may review the permit and require updated information and modifications when necessary.

R647-4-103- NOI to Begin Large Mining Operations

Geneva will describe compliance with the provisions set forth by DOGM to commence large mining operations in Morgan County in the following subsections.

R647-4-104 – Operator, Surface and Mineral Owners

104.1: Mine Name

Morgan Quarry

104.2: Operator

Geneva Rock Products, Inc

P.O. Box 1955

Orem, Utah 84059

Phone: 801-802-6900

Type of Business:	Corporation
Utah Business Entity:	570716-0412
Local Business License Number:	Pending
Issued By:	Morgan City

104.3: Permanent Address

Geneva Rock Products, Inc.

P.O. Box 1955

Orem, Utah 84059

Phone: 801-802-6900

Fax: 801-434-3017

104.4: Contact Person for Permitting, Surety, Notices:

Brent R. Sumsion

Geneva Rock Products, Inc.

P.O. Box 1955

Orem, Utah 84059

Phone: 801-802-6900

Fax: 801-434-3017

104.5: Location of Operation

NW ¼, Section 31, Township 4N, Range 3E

NE ¼, Section 36 Township 4N, Range 2E

104.6: Ownership of Land Surface

Geneva Rock Products, Inc.

P.O. Box 1955

Orem, Utah 84059

104.7: Ownership of Record of Minerals to be Mined

Geneva Rock Products, Inc.

P.O. Box 1955

Orem, Utah 84059

104.8: BLM Lease or Project File Numbers

There is no Bureau of Land Management (BLM) lease or project file number for this Facility.

104.9: Adjacent Land Owners

These land owners were obtained from various ownership maps obtained from Morgan City and Morgan County. To the best of our knowledge, these maps are accurate and are included in Appendix A.

Owner	Acres	Mailing Address	City	State	Zip Code
Department of Natural Resources	556.19	PO Box 145610	Salt Lake City	UT	84114
Morgan City "A"	0.852	PO Box 1085	Morgan	UT	84050
Morgan City "B"	0.958	PO Box 1085	Morgan	UT	84050
Blakley Enterprise	0.91				
Charles Pentz Estate	11.70	PO Box 794	Morgan	UT	84050
Jana S. and Basil E. Douchette	??				
State Road	2.39	4501 South 2700 West	Salt Lake City	UT	84119

Commission					
Reese Legacy LLC	79.77				

104.10: Have the land, mineral, and adjacent land owners been notified in writing

The adjacent land owners have been notified in writing and are aware of operations at the Facility. This Facility has been operating under Small Mining Operations permit number S0290007. Some land owners could not be located as they may not be the current owners. Maps for adjacent property owners seemed to vary and be outdated.

104.11: Does the Permitee/Operator have a legal right to enter and conduct mining operations or the land covered by this notice?

Geneva has legal right to enter the site and conduct mining operations as it now owns all of the surface and mineral rights of the affected property. Granite has previously been at this location for approximately one (1) year under Small Mining Operations permit number S0290007 and about one (1) year operating under a Large Mining Operation.

R647-4-105 – Maps, Drawings, and Photographs

All maps used to develop this NOI are located in Appendix B.

105.1: Base Maps

Figures: 105.1-1; 105.3-1, and 105.3-2 located. in Appendix B.

105.2: Surface Facilities Maps

Figures: 105.1-2; and 105.2 located in Appendix B.

105.3: Reclamation Maps

Figures: 110.2-1; 110.2-2; 110.2-3; 110.2-4; and 110.5-1 located in Appendix B.

105.4: Additional Maps

Figures: 106.5-2; 106.7-1; and 106.8-1 located in Appendix B.

105.5: Photographs

Photographs are located in Appendix E: Soil Report and Photos. Photographs in Appendix B of this report were taken at the time and location of the vegetation sample location and these photograph points are indicated as sample locations in Figure 106-7-1. The photographs located in Appendix C of this Soil Report were general site photographs and their locations can be found in Figure 106-5-2.

R647-4-106 – Operation Plan

106.1: Mineral(s) to be mined

The mineral to be mined is generally a Mississippian Limestone for construction aggregate. The limestone is mostly pure calcium carbonate (CaCO3). The limestone in the western

portion of the project area has some slight sand, silt, and clay impurities contained within the framework of the rock. It is fine grained and dark gray to dark blue in color. Areas of the deposit exhibit secondary calcite veining and some sparse quartz is present as fracture fill. Secondary calcite and quartz appear to make up less than (<) 2% of the deposit.

106.2: Type of Operation Conducted

Geneva Rock Products, Inc. (Geneva) will conduct common practices typical with crushed and broken limestone mining and quarrying. These practices include using explosive materials- to include ammonium nitrate fuel oil (ANFO) - to initially break the rock from its naturally occurring state. The blasted rock will be pushed down the face of the slope by a bulldozer. Once it is at the bottom of the slope, the rock is hauled from its originally disturbed location to a primary feeder, which feeds the aggregate plant. The aggregate plant is composed of a series of crushers, screens, and belts to adequately size the originally blasted rock into a viable end product. All operations at the Morgan Quarry (including blasting and crushing operations) abide by MSHA and industry standards.

Blasting Operations

Geneva utilizes a subcontractor to perform blasting operations at the site. Typically, the subcontractor enters the site and sets up a location determined by Geneva and starts drilling blast holes. The blast locations follow the mine plan for the Morgan Quarry and are generally set for a 50,000 to 75,000 cubic yard blast. Based on the location and size of the blast will determine the amount of holes drilled and the amount of ammonium nitrate fuel oil (ANFO) used by the subcontractor. The blasts are controlled and used to produce the size of rock that can be easily handled by the front end loader and aggregate plant. After the material has been blasted, a bull dozer pushed the blasted rock to the bottom of the slope where it can be transported to the aggregate plant by a front end loader.

Crushing Operations

After the blasted limestone rock is fed into the original feeder, it will pass through a primary crusher that will initially break down the rock and be fed into the first vibratory screen. The screen separates the rock into usable product to be fed through the rest of the plant and a road base type material. The road base material is removed from the rest of the feed and sent to a stockpile location. The usable product then gets sent to a secondary cone crusher, where it is further broken down in size. The rock then passes to a splitter bin that is used to ensure consistent feed through the remainder of the plant. The material from the splitter bin is fed into a second vibratory screen. Some end products are removed at this screen location and sent to stockpiles. Oversized rock is sent to a tertiary screen where it is broken down and re-circulated to the second vibratory screen, which sorts the material into viable end products. A process flow diagram and plant layout figure is located in Appendix C. The plant and equipment in this process flow diagram is what is currently at the Morgan Facility. Based on the consistency of the aggregate being produced and the type of end product needed determines the type of equipment at the Facility. Equipment may need to be modified based on test results and need.

Geneva abides by all regulations concerning air quality, water quality, oil management and storage, and other applicable regulations; such as: local, state, and federal regulations. Periodic site inspections help maintain a high level of compliance as well as being involved with state wide programs such as Clean Utah.

Currently on site, there are no deleterious or acid forming materials, nor shall any of these materials be left on site. If this type of material becomes present, Geneva will take preventive actions to mitigate oxidizing.

106.3: Estimated Acreage

Geneva had a predetermined mining plan based on initial estimates. These productions, estimated acreage, and reclamation are based on market conditions and are included in Appendix D. Estimated tonnage and disturbed acreage will depend on market conditions. As initially planned, Geneva will disturb a maximum acreage 37.7 acres on the 53-acres. The yearly estimated disturbed acreage ranges from 0.1 acres to up to 4 acres with the average being approximately 0.59 acres. Depending on market conditions, this disturbance may vary from year to year. Geneva has bonded the entire acres of estimated disturbance and the bonded area can be seen in Figures 105.1-2 and 110.5-1. Below is a brief breakdown of what can be found in Appendix D for the next 10 years. This is based on a 200,000 tons per year basis. Currently, the amount of reclaimed acres is undetermined on an annual basis and will be determined once Geneva reaches final floor elevation and pit design. It is assumed that all 37.7 acres will be opened at the same time an reclamation will occur once mine life has been exhausted.

Table 106.3-1. Estimated Distrubed Acreage

AREA	Total Affected Acreage	Description	Total Cubic Yards of Topsoil
Existing Mine	10 acres	Existing Mine disturbance between Granite and Blue Rock	2,300
Area of New Disturbance	8 acres	To be disturbed in years 1-10	16,200
Stockpiles and Plant Locations	5 acres	To be disturbed for plant set up and stockpile locations. Some of this is already accounted for in the existing mine and including new haul roads	
Storm Water Control Ponds	3 acres	One pond will be located at the base of Metz Hollow and the other will be located by the stockpile locations.	
Remainder of Mine	21 acres	Total disturbance years 11-47	24,100
Totals	53 acres		42,600

106.4: Nature of material including waste rock/overburden and estimated tonnage

The data was obtained from an add-on to Surpac called MineSched. The program will "mine" a deposit based on inputs such as yearly tonnage, direction, bench dimensions, etc. There is always some error associated with computer simulation; however, this program is

currently the best method at Geneva disposal. This method of estimation is a standard industry practice.

The nature of the rock is fairly consistent and is Mississippi Limestone as indicated in section 106.1. Since this is a hard rock deposit, the majority of the material is usable in our standard construction practices (approximately 70% as a top product). The remaining thirty percent of material is stock piled separately and used as a base course material. This type of classification and sorting allows Geneva to utilize one-hundred percent of the material produced at the site. Geneva is estimating approximately 200,000 tons of material (base rock and top product) on an annual basis. However, the maximum allowable tonnage to be removed by air quality standards is 750,000 tons on a rolling twelve month basis.

106.5: Existing soil types, location of plant growth material

Data for an Order 3 Soil Survey was available for Morgan County and included the project area. Using this soil survey data as a reference, it was determined the project area contained three soil types: Agassiz-Rock Outcrop Complex (AaG), Agassiz-Rock Outcrop Complex shallow (AbG), and Eastcan Variant Loam (EdC). The majority of the Permit Area consists of the type classified as Agassiz-Rock Outcrop Complex.

Due to the lack of moisture on the project area for many months during the year and its growing season, the location of the plant growth material is limited to the upper "C" horizon of the soil profile.

Survey Methodology

An Order 3 Soil Survey was performed to verify the findings in the NRCS report. Four plots, GC2, GC3, GC4, and GC5, each measuring 6" x 6", were surveyed to verify soil type Agassiz-Rock Outcrop Complex (AaG), on May 14, 2009. A fifth plot, GC10, for soil type Eastcan Variant Loam (EdC), was surveyed on July 17, 2009. Figure 1, located in Appendix A, illustrates the locations of each data plot. At each designated plot, the soil was excavated to refusal. Average depth of the plots was 10 inches. Soils were characterized for texture, color, moisture, and pH.

Each plot was surveyed by Sylvia Rahman, MS, Soil Scientist, IHI Environmental. The results are summarized in Table 106.5-1.

Table 106.5-1

Summary Of Top Soil Descriptions

Survey Area ID	Map Unit Symbol	Slope %	Top Soil				Color		Texture	Structure	Consistence			Rock Outcrop	Rock Fragments		
			Depth Inches	Moisture %	Salinity	pH	Dry	Moist			Dry	Moist	Wet		% By Volume	Size	Shape
GC2	AaG	55	5	10	Non-saline	7.25	2.5 YR 4/3	10 YR 3/1	Cobbly Silty Loam	Moderately Strong Small Granular Peds	Moderately Loose	Slight Sticky	Slight Sticky	75%	20%	Cobble	Angular to Sub-angular
GC3	AaG	40	12	8	Non-saline	7.2	10 YR 4/3	10 YR 3/1	Cobbly Silty Loam	Moderately Strong Small Granular Peds	Moderately Loose	Slight Sticky	Slight Sticky	65%	20%	Cobble	Angular to Sub-angular
GC4	AaG	20	10	10	Non-saline	7.25	10 YR 4/3	10 YR 3/1	Cobbly Silty Loam	Moderately Strong Small Granular Peds	Moderately Loose	Slight Sticky	Slight Sticky	70%	20%	Cobble	Angular to Sub-angular
GC5	AaG	20	11	9	Non-saline	7	10 YR 4/3	10 YR 3/1	Cobbly Silty Loam	Moderately Strong Small Granular Peds	Moderately Loose	Slight Sticky	Slight Sticky	70%	20%	Cobble	Angular to Sub-angular
GC10	EdC	5	10	3	Non-saline	6	7.5 YR 4/1	10 YR 3/2	Sandy Clay Loam	Moderately Strong Small Granular Peds	Moderately Loose	Slight Sticky	Slight Sticky	N/A	20%	Gravel	Angular

Results/Conclusion

The field survey concurs with the NRCS report. The soil of the upslope portion of the survey area is classified as Agassiz-Rock Outcrop Complex (symbol AaG, Figure 106.5-2): mountain slopes and mountain flank with greater than 20 percent rock outcrop and 70 percent stone fragments and cobblestones. Parental material is colluvium over residuum derived from limestone. Depth of topsoil varies from 0 to 14 inches; field observations indicated that soil depth was less than 14" at all locations sampled. The soil is mostly very cobbly to extremely cobbly silt loam. Water-holding capacity at this site is very low due to the convex shape of the slope and excessively porous soil (Appendix 1 and Morgan Area Soil Survey, SCS 1974).

The soil type for a small portion along the south boundary of the Permit Area adjacent to the frontage road is classified as Eastcan Variant Loam (symbol EdC), mountain slopes and mountain base. Parental material is slope alluvium and/or alluvium derived from limestone, quartzite, and sandstone (Appendix C and Morgan Area Soil Survey, SCS, 1974). This area has been significantly altered by previous commercial activity. It is interpreted that the top soil in the EdC soil unit area was previously excavated, but this cannot be verified because of a lack of information. The field condition shows that the area is used as a gravel stock pile location and vehicle parking area. The current user continues to use the area for the same purpose.

The eastern part of the project area has already been mined under an existing small mine permit. The topsoil from this area was not salvaged or stockpiled. This includes the small area of soil type Agassiz-Rock Outcrop Complex, shallow (AbG), along the southeast edge of the disturbed area outline. The final availability of topsoil is based on a conservative estimate of average salvageable topsoil depth which varies from 0 - 12 inches. On average, approximately six inches of topsoil will be recovered from approximately 34 acres and would provide approximately 27,000 cubic yards of topsoil.

The analytical results indicated that the soil fertility is low. This will likely require amendments to provide successful revegetation results. The reclamation plan calls for the use of composted manure or biosolids as a soil amendment. The table below indicates the results of the soil analysis that was completed.

Table 106.5-3

Summary Of Top Soil Fertility Analysis

Survey Area ID	Map Unit Symbol	% Area Cover	Texture	pH	EC	SAR	CEC	Organic Matter	Total-Nitrogen	Nitrate-Nitrogen	Available Phosphorus	Available Potassium
					dS/m		cmol/kg	%	mg/kg	mg.kg	mg/kg	mg/kg
A @ 6"	AaG	~95	Silt Loam / Loam	8.23	0.52	0.61	13.8	3.5	0.19	2.72	5	215
E @ 6"	EdC	~5	Loam	7.85	0.76	0.36	19.5	11.3	0.57	11.1	8.6	535

Existing Surface Conditions:

The project area is relatively undisturbed, except for a pre-existing road cut used to install a series of utility poles. There is evidence the site has been used for grazing by livestock and wildlife. The calculated average slope of the study area is 39% and faces from southeast to southwest around a generally uniform convex south-facing surface. Most precipitation in the area is in the form of snow and falls between October and April (*Groundwater Reconnaissance of the Central Weber River Area, Morgan and Summit Counties, Utah*, Publication No. 77, Utah Department of Natural Resources, 1984). Vegetation is sparse, consisting of scattered junipers, mountain grasses, forbes, and shrubs, providing approximately 40% vegetative cover (refer to Vegetation Survey, Section 106.7). The soil surface has a fairly uniform cover of angular rock fragments, ranging from 8mm - 50mm and larger. There are numerous locations of exposed consolidated rock outcrop. Overall, the topsoil layer is predominantly less than 12" deep.

There was very little surface litter and very little indication of pedestalling. Soil movement was localized and few rills were present. Any rilling was of small scale, and no gullies were present, except for the stable main drainage channel on the east edge of the site. There was no evidence of any recent mass movement of soil.

A soil erosion condition evaluation was performed by Mike Bradley, Senior Project Manager, Natural Resource Services, IHI Environmental. The survey used the Bureau of Land Management's Erosion Condition Classification (ECC) System for rangelands. Ten data points located in conjunction with the vegetation survey data points were evaluated (Figure 2). The data is presented in Table 106.5-4.

Table 106.5-4. Soil Erosion Condition Classification Summary

Data Point ID	ECC Value	Erosion Condition Class	Apparent Trend Value	Apparent Trend Rating
1	19	Stable	23	Static
2	19	Stable	29	Upward
3	24	Slight	23	Static
4	29	Slight	21	Static
5	36	Slight	23	Static
6	28	Slight	21	Static
7	23	Slight	25	Static
8	18	Stable	25	Static
9	24	Slight	23	Static
10	31	Slight	23	Static
Total	251		236	
Average	**25.1**	**Slight**	**23.6**	**Static**
Total	251		236	
Average	**25.1**	**Slight**	**23.6**	**Static**

Erosion Condition Class: 0-20 = Stable; 21-40 = Slight; 41-60 = Moderate; 61-80 = Critical; >81 = Severe

Observed Apparent Trend: 26-35 = Upward; 17-25 = Static; 7-16 = Downward

106.6: Plan for protecting and re-depositing existing soils

Geneva will comply with those rules listed in section R-647, as they pertain to the Facility. Topsoil removal will be separated from minable material. If the topsoil is not replaced in a time short enough to prevent deterioration, Geneva will vegetate to prevent damage from wind or water erosion.

Currently, the topsoil material is transferred from an active mining area with a dozer to a previously disturbed area for reclamation. This "chain and effect" style ensures that the topsoil will maintain its composure, while mining in a phased pattern to minimize exposed mining activity and simultaneously reclaiming the project area. The initial mine plan is to commence mining in the northern part of the property by Metz Hollow and continue south. Reclamation will take place in previously mined areas when Granite determines there will be no negative impact to the reclaimed area as a result of continued mining. As proposed, all acreage to be disturbed will be bonded.

106.7: Existing Vegetative Communities

Background

Geneva is proposing to increase their existing small area mine permit for the Morgan Quarry to a large mining operation. Currently the area being mined is approaching five acres in size, and Granite is intending to increase the area to include approximately 40 acres.

Utah Rule R647-7-106.7 for large mining operations requires the applicant provide a description of the existing vegetative communities and cover as part of the Notice of Intent in order to establish a baseline for the re-vegetation success of 70% of pre-mining disturbance.

Project Area/Site Description

The project area for the vegetation survey was limited primarily to the south-facing slope of a mountain adjacent to the north side of Interstate 84 approximately 0.5 miles north of the community of Morgan, Utah. Elevation of the project area ranges from 5,100'above sea level (ASL) at the toe of the hillside to 5,560' ASL at the upper north boundary of the project area. The calculated average slope of the hillside is 39%.

At the time of the field survey, there was no indication of use on this area other than the existing mining and crushing operation that is ongoing. Evidence suggests that at some time horses were present on the site, but, based on the vegetation survey, the project area provided very limited forage for livestock.

See Appendix A for representative photos of the project area.

The project area consists mainly of small, annual herbaceous plants along with some grasses. Many of the plants are considered weeds, and, in some instances, the plants are listed as invasive and noxious in other states. There are small communities of juniper trees intermixed on the site. Due to the rocky nature of the site and the lack of soil cover in general, conditions for growing cover plants are limited. Water-holding capacity of the project area is considered minimal due to the extreme slope and lack of soil cover over rock.

Survey Methodology

Using Attachment 1 of the Division of Oil Gas and Mining (DOGM) Form MR-LMO (revised June 2007) as the guideline for the vegetation cover sampling survey, the ocular estimation method was selected. This method visually estimates the percentage of ground covered in

a plot using four components. The four components are vegetation, rock/rock fragments, litter, and bare ground. The vegetation was further broken down into four community types: trees, shrubs, forbs, and grasses. Each plot size measured 36 inches square. Ten plots were randomly placed on the 40 acres. At each plot, a visual estimation of the percent cover was made for each of the four components. Appendix E contains worksheets for each of the sampling points on the subject area. Figure 2 shows the location of each plot on the project area and the surveyed property boundary. Table 3 summarizes the percent cover for each of the four components.

At the time of the field survey, the project area extent had not been established from a boundary survey. Using preliminary information, the sample plots were randomly selected over the area, using estimated boundaries. Once the final survey was completed, it was noted that five of the sample plots were outside the project boundary. Due to the fact that there are no significant vegetative changes between the plots located within the boundary and the geography of the area outside the boundary was consistent with the geography inside the boundary, it was decided to use all the plots and not do additional surveys. This issue was presented to the DOGM Project Manager, who concurred with the findings and allowed all the plots to be considered.

The field survey was performed on May 14, 2009, by Tom Hopkins, CEM, Manager, Natural Resource Services, IHI Environmental. Plant species not identified in the field were collected and returned to IHI for identification by Ms. Amy Findley, Botanist.

Each plot site was measured using a standard tape measure and then the cover components were visually estimated for each plot. The vegetative cover component was further evaluated as percent cover as tree, shrub, forbs and grass component. Each plot was field identified by placing a small pin flag in the center of the plot and properly identified. Using a Garmin V field GPS instrument, each plot's geographical coordinates were determined and transferred to an aerial photo.

Results

The Permit Area is comprised of upland plant species with minimal to nonexistent overstory. The area is mainly undisturbed and consists of small, drought-tolerant plants. Weedy, invasive plants are minimal on the site. Weedy, invasive plants were noted mainly adjacent to the disturbed area that is currently being mined.

The dominant plant species over the Permit Area is *Erocium cicutarium*, commonly known as Redstem stork's bill. This plant is a nonnative plant introduced to North America by the Spaniards. It does provide forage for animals. It is considered by some states as a noxious weed but not in Utah. It is commonly found on rocky slopes and in sandy soils and can be invasive to lands that have been overgrazed. Redstem stork's bill was identified in nine of the ten plots.

The dominant grass species in the Permit Area is *Poa bulbosa*, commonly known as Bulbous bluegrass. Bulbous bluegrass is a non native plant that was introduced into North America from Eurasia. It can be found on disturbed sites but is used many times for reseeding after a fire has consumed an area. Bulbous bluegrass provides forage to deer, elk, game birds, and small mammals early in the growing season

before the plant goes dormant following seed dispersal. Bulbous bluegrass was identified in 5 of the 10 plots.

No shrubs were identified in any of the plots, but observations over the entire Permit Area noted that small communities, mainly individual plants, of *Chrysothamnus sp.*, commonly known as rabbitbrush, were present.

Trees were basically lacking over the project area. There are several small communities of *Juniperus utahensis*, commonly known as the Utah juniper. None of these communities were present in any of the plots.

Table 106.7-1: Data Summary Table Vegetation Survey

Cover Component	Plot Identification										
	GC-1	GC-2	GC-3	GC-4	GC-5	GC-6	GC-7	GC-8	GC-9	GC-10	Average %
Tree	0	0	0	0	0	0	0	0	0	0	0
Shrub	0	0	0	0	0	0	0	0	0	0	0
Forbs	80	80	1	30	20	0	20	19	60	8	31.8
Grass	10	10	1	55	5	0	0	0	15	2	9.8
Total Vegetation	90	90	2	85	25	0	20	19	75	10	41.6
Litter	0	0	0	1	0	0	2	1	0	0	0.4
Rock	10	10	98	10	50	100	60	80	20	85	52.3
Bare Ground	0	0	0	4	25	0	18	0	5	5	5.7
Total	100	100	100	100	100	100	100	100	100	100	100

As demonstrated in the above table, more than 50% of the Permit Area is composed of exposed rock. Only 41% of the project area is covered with any of the vegetation components.

106.8: Depth to groundwater, overburden material & geologic setting

Depth to groundwater in the valley floor section of the property adjacent to the highway is estimated to be 15'-25' below ground surface based on well data from the Utah Division of Water Rights. Wells with data used to support this conclusion are located on the map in Figure 106.8-1. The North Morgan Canal conducts irrigation water drawn from the Weber River west along the south boundary of the permit area and likely has localized seasonal influence on the surficial groundwater table. Groundwater depth in the mountain-flank portion of the site is stated as greater than 80", according to the NRCS soils report in Appendix A. There are no wells located nearby in a similar geophysical setting, but, due to the underlying consolidated bedrock, groundwater is assumed to be confined to and conducted by joints and fracture zones. There are several springs located approximately 3,700 feet northwest of the project area at the toe of the slope. There are no springs within the project area.

106.8.1: Geologic Setting

REGIONAL

The project area is located near the boundary of the Middle Rocky Mountain, and Basin and Range Physiographic Province of Utah. The Middle Rocky Mountain province in northeastern Utah consists of mountainous terrain, stream valleys and alluvial basins. It includes the Wasatch Mountain Range, comprised mainly of Pre-Cambrian, Paleozoic and Mesozoic sedimentary and metamorphic rocks, as well as sparse Tertiary igneous and volcanic rocks. The Basin and Range Province contains numerous tilted, north-south oriented mountain ranges separated by sediment filled basins. This province is bounded in the east by the Wasatch Range, and to the west by the steep, fault blocked eastern Sierra Nevada Range.

The site is situated in hard-rock on the south-east border of the Morgan Valley. The Morgan Valley is a northwest trending structural trough shared by the Ogden Valley to the north. It is approximately 12 miles long by 2 miles wide and specifically resides in the hinterland of the Middle Rocky Mountain Province. Morgan Valley consists of alluvial fill derived predominantly from the Weber River, and secondary tributary drainages. Pleistocene Lake Bonneville contributed lacustrine sediments to the area that consist of laminated sands, terraced gravels and alluvial deltaic gravels. The valley is bounded to the west by the Wasatch Range and Weber Canyon. It is bounded to the east by the Upper Weber Canyon and additional mountain range that includes Little and Big Mahogany, as well as Haystack Mountains. Elevations surrounding the area range from 9,706 feet to approximately 4,835 feet at the town of Mountain Green. The Wasatch Range consists predominantly of Precambrian metamorphic rocks of the Farmington Canyon Complex (Bryant, 1988). Most of the area surrounding the Morgan Valley consists of Tertiary Norwood Tuff and tuffaceous sandstone. Additional rock units consist of Cretaceous to Tertiary conglomerate, and conglomeratic sandstone with some siltstone, Quaternary alluvium, colluvium and landslide deposits. Paleozoic limestone rocks crop out towards the south-east of the valley.

SITE SPECIFIC

The elevation of the project area ranges from 5,100 feet above mean sea level (MSL) to 5,560 feet above MSL. The specific geology consists of a bedded Mississippian Limestone. It is dark blue in color. This limestone appears to be deposited in a foreland basin cratonic platform during a transgressive marine event in the Lower Mississippian Period. Numerous orogenies throughout the Paleozoic and Mesozoic tilted the beds to their current position. The orientation of the limestone bedding ranges from (358, 41) to (012, 21). The average dip of the beds is 33 degrees east and the thickness of the bedding ranges from <2ft to >5ft thick. Outside of the project area, the limestone appears to be in depositional contact to Devonian sandstone to the west, and an Upper Mississippian limestone to the east. Because of the structural orientation of the rock units, the rock becomes younger going east (up section). The limestone in the eastern portion of the previously mined area is pure, dense and fine grained. Areas of the deposit exhibit secondary calcite veining and some sparse quartz is present as fracture fill. To the west, the limestone becomes slightly dirtier and appears to have more sand and mud (marl) in the matrix. Small calcite filled vugs are present. Some outcrops display laminations between 2mm – 1 cm in size. The soil cover is thin (<1ft) and is derived from

weathered bedrock and windblown sediment. Locally, the soil contains sparse angular rock fragments. Prior to any mining activity, a natural drainage existed in the southern end of the project area that now contains a small, gentle slope of alluvium and Lake Bonneville deltaic sediment. The alluvium is less than 12 feet thick and contains rounded gravels in a matrix of sand, silt and sparse clay.

106.9: Location and size of ore and waste stockpiles, tailings, treatment ponds, and discharges

Geneva is mining a limestone deposit in Morgan Utah in the following Parcels: 01-004-623 Section 31, 01-004-624 Section 31, 01-004-383 NE 1/4 – Section 36, 01-004-386 NE 1/4 – Section 36. Under these parcels and mining the maximum amount with maintaining permitted slopes, there are approximately 9 million bulk tons.

There are no waste stockpiles, as the current market in that location supports road base, which is a natural by-product of our operation. The primary stockpiles are located in Parcel 01-004-624 Section 31. There currently are no tailings or treatment ponds therefore there are no discharges of such containment. A depiction of the site layout as well as stockpile size and location can be found in Appendix B.

106.10: Information regarding the amount of material extracted, moved or proposed to be moved.

This material is described in Appendix D.

106.11: Public Safety and Welfare

At all times, Geneva takes into account the safety of its workers and the safety of the public. Signs are posted throughout the project area to warn those unfamiliar with the site of potential dangers and those signs also serve as a reminder to the employees on site every day the dangers they may face. Geneva complies with those regulations set forth by the Mine Safety and Health Act (MSHA) as well as internal policies set forth by Geneva's Accident Prevention Program.

106.11.1: The closing or guarding of shafts

There are no shafts present on site.

106.11.2: The disposal of trash, scrap metal and wood, and extraneous debris.

Geneva takes pride in the appearance of our various facilities. Housekeeping procedures are in place to prevent the unwanted deposition of trash and other extraneous debris. First, there is an onsite dumpster located on site to handle the vast majority of trash and other extraneous debris that is non-recyclable. This dumpster always has a lid on it to prevent the blowing of trash and is serviced by a local vendor.

Second, Geneva is a firm believer in recycling. All materials that can be recycled (metal, used oil, used antifreeze, wood, etc.) will be handled in an appropriate manner to ensure the materials are valuable to recycling companies and not turned into garbage. Granite already has in place an on-site metal recycling container.

Wood, used oil, used antifreeze, etc. will be recycled as generated to an approved recycler.

106.11.3: The plugging or capping of drill, core, or other exploratory holes as set forth in Rule R647-4-108

There is no drill, core, or other exploratory holes present within the project area. If these drill, core, or other exploratory holes become present, they will be plugged in accordance with section 108.

106.11.4: The posting of appropriate warning signs in locations where public access to operations is readily accessible.

In line with Geneva's beliefs about public safety, as well as worker welfare, there are several signs appropriate to the size and scale of the project area located throughout the facility. The following is a list of signs that exist throughout the project area:

- "ALL VISITORS ARE REQUIRED TO CHECK IN AT THE SCALE HOUSE". This sign is to ensure that all visitors know on-site specific hazards as well as alerting on-site personnel that another person will be roaming around the site. Visitors will sign a form indicating they've been apprised of site specific hazards.
- "DANGER – OVERHEAD POWER LINES". These signs are to indicate there is an aerial hazard in case you have a high vehicle or plan on working at height.
- "FLAMMABLE", "NO SMOKING WITHIN 25 or 60 FEET",. These signs are placed around any flammable material that is stored on-site, indicated it is stored there and no-smoking within a specified distance.
- "DANGER - FALLING ROCKS". These signs are placed at differing locations around the plant, as well as, around the face of the mining slope.
- "PERSONAL PROCTECTIVE EQUIPMENT REQUIRED". This is a sign indicating mandatory protective clothing and equipment is required. If someone entering the site does not have this type of clothing or equipment, it will be loaned to them entering the site but must be returned when exiting the site.
- "TURN CB TO CHANNEL 2". This is the communication channel for mobile equipment on site.

106.11.5 The construction of berms, fences and/or barriers above high walls or other excavations where required by the Division.

The area above the high wall of the project area is not readily accessible to the public. There is a fence indicating property boundary and also to keep pedestrian traffic away from the high wall.

106.12: Drainages

There is only one natural drainage system in the project area. Metz Hollow, which is located at the northeast section of the Facility, will be protected, to the extent

practical, during mining operations. This natural drainage was considered in the development of a site Storm Water Pollution Prevention Plan (SWPPP).

106.13: Erosion Control

Specified in the Storm Water Pollution Prevention Plan (SWPPP), Geneva will provide 2 settling ponds to entrained soil and sediment do not leave the property boundary.

106.14: Deleterious Materials

Diesel fuel and oils that are stored on site are stored in a manner consistent with oil and fuel storage regulations. The large diesel tank has individual secondary containment for its contents. Depending on the diesel tank located on site, Granite provides a 120% secondary containment capacity for the contents of tank plus freeboard. Along with the additional operating capacity of the tank, the tank and containment system have a tarp-covering system to prevent storm water from coming in contact with the tank and ensuring the continued integrity of the containment system. Oil for the site is generally stored in 5-gallon buckets and in a portable containment system to mitigate the effects of any spill/leaks.

No deleterious material is anticipated from normal mining operations.

106.15: Soils (update section with storing of topsoil)

No material will be stored for reclamation. If material is to be stored, precautions will be taken to prevent erosion and deterioration of the soil. If material is to be stored for longer than 1 year, re-vegetation will occur until such material is to be put back in its original location.

106.16: Concurrent Reclamation

Portions of the Facility that are no longer needed, except for confirmation of mineralization, will be reclaimed as soon as practical. That portion will be maintained in a safe, environmentally friendly condition.

R647-4-108 – Hole Plugging Requirements

108.1: Surface plugging of drill holes shall be accomplished by:

There is no surface drill holes located at the Facility outside of the drill holes necessary for blasting. If drill holes are later to be found necessary, they will plugged according to DOGM specifications, which are as follows:

- Drill holes shall be properly plugged as soon as practical and shall not be left unplugged for more than 30 days without prior approval by DOGM.
- Dry holes and non-artesian holes that do not produce significant amounts of water may be temporarily plugged with a surface cap to enable Granite to re-enter the hole for the duration of set operations.
- Surface plugging of drill holes outside the actual mine area shall be accomplished by setting a nonmetallic permaplug at a minimum of five (5) feet below the surface, or returning the cuttings to the hole and tamping the returned cuttings to within five (5) feet of ground level. The hole above the permaplug or cuttings will be filled with

a cement plug. If cemented casing is to be left in place, a concrete surface plug may not be required as a permanent cap is secured on top of the casing.

- Drill holes that encounter water, oil, gas, or other potential migratory substances and are 2.5 inches or greater in surface diameter will be plugged in the subsurface to prevent the migration of fluid from one stratum to another. If water is encountered, plugging shall be accomplished as outlined below.
- If artesian flow (i.e. water flowing to the surface from the hole) is encountered during or upon cessation of drilling, a cement plug will be placed to prevent water from flowing between geologic formation and at the surface. The cement will consist of API Class A or H cement, with additives as needed, and will weigh at least 13.5 lbs/gal. It will be placed under the supervision of a person qualified in proper drill hole cementing or artisan flow.
- Artesian bore holes will be plugged as described prior to removal of drilling equipment from the well site.
- If the surface owner of the land affected desire to convert an artesian drill hole into a producing and/or monitor well, the landowner will provide written notification to DOGM accepting responsibility for the ultimate plugging of the drill hole.
- Holes that encounter significant amounts of non-artesian water shall be plugged by: 1) placing a 50-ft cement plug immediately above and below the aquifer(s) or filling from the bottom up (through the drill casing) with a high grade bentonite/water slurry mixture. The slurry shall have a Marsh Funnel viscosity of at least 50 seconds per quart prior to the adding of any cuttings.

108.2: Drill Holes that encounter water, oil, gas, or other potential migratory substances:

Geneva does not intend to encounter water, oil, gas, or other potentially migratory substances during the mining of the project area. The limestone throughout this project is very consistent. Geneva does not intend to mine below ground elevation at the highway. Depth to groundwater at highway elevation is approximately 15-25'. Therefore, Geneva does not intend to encounter water, oil, gas, or other potentially migratory substances.

R647-4-109 - Impact Statement

109.1: Surface and groundwater systems

109.1.1 Surface Water

The Permit Area is located on a south-facing flank of an unnamed mountain immediately north of Morgan, Utah. Average annual rainfall for the area is 21 inches. Original mining operations intercepted an ephemeral channel (Metz Hollow) that outfalls onto the flood plain of Weber River Canyon and eventually to the Weber River north of Morgan. The North Morgan Canal lies between the outfall of Metz Hollow and the Weber River and would likely intercept any outfall. Downstream of that, Interstate 84 lies between the North Morgan Canal and the Weber River such that a direct connection to the river has been lost.

Metz Hollow, north of the disturbed area, drains 193 acres. This drainage will be captured by the east pit floor. A small parcel of land owned by the City of Morgan lies within the proposed pit area but is not included within the disturbed area. This in effect subdivides the pit floor into two areas.

A small 5-acre area of convex slope lies over the west portion of the pit. Drainage from this area will be coursed over the pit walls from sheet flow into the pit bottom. The high walls, benches, and pit floor will be approximately 38 acres. Until vegetation is re-established, the surface will lack cover. All storm water is proposed to be retained on site by using retention and infiltration ponds.

The size and shape of these retention ponds to handle this capacity will change with the proper mining of the facility. A hydraulic calculation is not estimated in the initial Storm Water Pollution Prevention Plan (SWPPP) due to the current facility size. These ponds will be used to prevent the run off of storm water. This flexibility will help maintain the maximum size of the retention ponds. The SWPPP located in Appendix G will be constantly updated to reflect current operating conditions. Once the ponds are designed, Geneva will provide DOGM with size and location for reference. A copy of the most current version of the SWPPP is available on-site.

Estimated run-off rates and volumes have been calculated for the three areas listed above. Using a 100-year, 6-hour storm event of 2.48 inches, run-off rates and volumes are predicted in the table below. Estimated run-off depth for the two areas above the disturbed area with similar hydrologic characteristics is 1.16 inches. Using the SCS (now NRCS) TR-55 method and Type II rainfall event, estimated run-off depth for the pit's disturbed area is 1.85 inches before the re-establishment of vegetative cover.

Table 109.1.1-1: Run-off Estimates for 100-year, 6-hour Storm Event

Watershed Name	Watershed Area (Acres)	Estimated Runoff Depth (Inches)	Estimated Runoff Volume (Ac-Ft)
Metz Hollow	193	1.16	18.7
Above West Pit	5	1.16	0.48
Pit	39	1.85	5.95
Total			**25.13**

Groundwater

For the purposes of this permit application, groundwater for the site can be partitioned into two systems: Weber River valley fill alluvium and the upslope bedrock. The Weber River alluvial system is controlled by the hydrology associated with the Weber River and is generally between 0 and 30 feet below ground surface. This area of the site is a recharge area for the valley groundwater system and will likely be the location of an infiltration basin. Minimal excavation is to be conducted within this system and no effects to groundwater are anticipated.

As pit excavation progresses, it is anticipated that isolated groundwater may be encountered as fracture zones are exposed. The subsurface hydrology of the upland portion has not been explored in depth; therefore, the interconnection of fracture zones is not known. The lack of springs located within the Permit Area or nearby indicates that groundwater contained within the bedrock is not of large extent or connected with a major groundwater source, and no effects to the upland groundwater system are anticipated.

109.2 - Wildlife habitat and endangered species

Due to the location of the Permit Area and the fact that the property abuts property owned by the State of Utah, Division of Wildlife Resources (DWR), the area is considered winter range habitat for big game, mule deer, and elk. The DWR classifies winter range for big game into two categories: critical and priority habitat. The main difference between the two categories is location of the habitat, condition of the forage material and presence of forage. A review of the DWR Geographical Information System (GIS) indicates that the Permit Area lies within an area considered as critical winter range habitat for big game. Existing vegetation is very limited in quantity and value because of site-specific conditions. Soil cover is minimal and sparse as there are many areas that are rock covered and non-vegetated. Site observations during the vegetation survey suggest that the Permit Area does not hold many animals during the winter months. This is evidenced by the fact that the juniper trees present did not show signs of browsing by big game animals.

Potential impacts from this mining operation to big game are expected to be minimal, because forage value and quality is very low.

There is no riparian habitat on the Permit Area, and, therefore, there will be no impacts to this type of habitat by the proposed activity.

The Permit Area is located near the Weber River which will serve as an attraction for waterfowl. The river is approximately ¼ mile south of the Permit Area. This distance should be adequate to minimize any impacts to waterfowl. Nesting does not occur on the Permit Area and anticipated flyways would follow the course of the river.

There is one federally listed threatened species and one candidate species for Morgan County. One candidate species, Yellow-billed cuckoo, is listed for this county. Candidate species are species that are currently being evaluated for potential listing but at the present time are not protected by the Endangered Species Act.

Yellow-billed cuckoos prefer open woodlands with clearings and a dense shrub layer. They are often found in woodlands near streams, rivers, or lakes. In North America, their preferred habitats include abandoned farmland, old fruit orchards, successional shrubland and dense thickets. In winter, yellow-billed cuckoos can be found in tropical habitats with similar structure, such as scrub forest and mangroves. This habitat is not present on the Permit Area, and, therefore, proposed activities should not impact this species.

The single threatened species listed for Morgan County is the Canada Lynx. Lynx generally live in mature forests with dense undergrowth but they can be found in more open forests, rocky areas, and tundra. The Permit Area lacks the forest component but does present rocky features. Cover on this site is very limited. Lynx are carnivores and members of the hare family are important in their diet. Lynx will consume deer if they can find animals that in a weakened state, such as during a stressful winter. They have been known to eat small rodents and other small mammals when available.

The Permit Area does provide some of the habitat for this species by being sparsely forested and rocky; it is unlikely that the proposed mining activity will impact this species, if present, at this location.

109.3 - Existing soil and plant resources

Impacts to existing soil and plants by the proposed mining operations will consist of removing the soil and plant material from the underlying rock material. This soil will be stockpiled to be used during revegetation of the site at completion. The existing vegetation will likely be destroyed during this scrubbing and storing process.

There will be no impacts to riparian habitat and or wetland areas from the proposed mining operations. These habitat types are not present on the Permit Area.

The Permit Area does not contain any threatened and endangered plant species, and, therefore, no impacts from the proposed mining operations are anticipated.

109.4 - Slope stability, erosion control, air quality, public health and safety

Geneva does not intend to negatively impact the surrounding environment. Geneva is going to mine in a manner consistent with the regulations set for by the DOGM and leave a stable slope of 1:1, including benching. A minimum factor of safety of 1.25 or greater will be maintained at all times on slope stability. If there are any unforeseen changes in geologic, geomechanical properties or phreatic surface, the slope stability will be reevaluated. The overall toe to crest slope will not exceed 1H:1V. A variance to increase the slope angle greater than 1H:1V may be requested in the future, which would include a stamped slope stability report from the licensed engineer of record.

Geneva is an environmentally friendly company and takes pride in being a steward of the environment. During operations at the Morgan Quarry, Geneva will ensure that all regulations regarding air quality, water quality, and oil storage will be strictly adhered to. The Utah Department of Environmental Quality (UDEQ), Division of Air Quality (DAQ) has a set of regulations requiring dust suppression and maximum allowable opacity generated from the operations and the site. Also, Geneva has obtained an air quality approval order (AO) to commence operations at this location. To obtain the AO, Geneva had to evaluate the impacts imposed by this operation with the result being no negative impact for the surrounding public health and demonstrated that operations here would meet National Ambient Air Quality Standards (NAAQS). NAAQS are developed for criteria pollutants and ensure the health and safety of the public.

Since this is a hard rock limestone, mining of this material would not increase the ability for the site to show erosion. Geneva has obtained a DEQ, Division of Water Quality (DWQ) Utah Pollutant Discharge Elimination System (UPDES) Multi-Sector General Permit for Storm Water Discharges associated with Industrial Activity permit for the Morgan Quarry. Compliance with this permit ensures there will be no negative impact from the project area. To obtain this permit, Geneva had to demonstrate compliance with DWQ's storm water program as well as develop a comprehensive Storm Water Pollution Prevention Plan (SWPPP), located in its entirety in Appendix F. There are two storm water retention ponds identified as mitigation measures to ensure that stormwater runoff does not leave the site boundaries. No specific calculations were computed for the two ponds as they will change in size and design in conjunction with the mine plan. The SWPPP is constantly modified for these changes in site conditions for continued compliance with the DWQ regulations. Mitigation measures for the project area are identified in the SWPPP. All documents issued by a governing authority (and their supporting documents), such as the DEQ, SHPO, DOGM, etc, can be found in Appendix G Permits, Plans, and Agency Approval.

Public safety is a top concern at Geneva, as well as the safety of Geneva's work force and no negative impact are the results of operations at this project area. Geneva adheres to an internal set of procedures and guidelines spelled out in Geneva's Accident Prevention Plan (APP). That APP was developed to be consistent with both MSHA and Occupational Safety and Health Act (OSHA) guidelines. If there was a conflict between the two regulations, the more stringent was chosen.

109.5 – Mitigation of Impacts to Cultural Resources

A Cultural Resources Inventory Report has been prepared by Sagebrush Environmental and has identified one (1) double oven lime kiln recorded during the survey as 42MO66 (Kiln Site). Currently, the scale house and scales are located directly in front of this site. The siting of the scale house at this location was to protect these kilns from possible mobile vehicle damage. The scales will remain in place to continually protect the scales from nearby traffic.

As mining approaches the Kiln Site, steps to reduce blast magnitude will be taken to not impact the Kiln Site. Photographic documentation and blasting magnitude controls will be taken before and after blasting within 300' of the Kiln Site. The peak particle velocity as measured at the Kiln Site will not exceed one inch per second (1 IPS) to protect any Cultural Resource impact from nearby blasts. Granite will leave a 40' buffer radius around the Kiln Site to further protect it from nearby blasts. No mining will take place in the lateral buffer area. The area above the Kiln Site will be protected with a berm to prevent large rocks from rolling off the hill side during a blast and impacting both the Kiln Site, scale house, and vehicle traffic. If a negative impact is noticed, blasting will not resume until DOGM and Geneva can reach a mutually agreeable blast magnitude. These mitigation measures are in compliance with the Office of Surface Mining, subchapter K section 816.61 Use of Explosives.

If other cultural resources are identified during mining operations, Geneva will immediately notify the Utah State Historic Preservation Office in Salt Lake City, Utah.

R647-4-110 – Reclamation Plan

110.1: Current and post-mining land use

Current Land Uses

The site currently has two land uses: 1) the hill slopes of the northern and eastern portions have been used for grazing and wildlife forage. The portion of this area within the limits of the city of Morgan is currently zoned R-R, Rural Residential; 2) the flat area of the south portion of the site has previously been used for vehicle and equipment storage and is zoned by the city of Morgan as C-H, Highway Commercial.

Proposed Post-mining Land Uses

Post-mining land use will be consistent with pre-mining land uses described above such that no zoning changes will be needed or requested after mining.

110.2: Reclamation of roads, highwalls, slopes, impoundments, drainages, pits and ponds, piles, shafts and adits, drill holes, and similar structures.

Reclamation of roads

There is one proposed haul road leading into the mine workings. Upon completion of mining operations, the haul road will be reclaimed by distributing and scarifying scavenged topsoil on the road to leave a roughened surface as described in Section 110.5, and then broadcast seeded with a seed mix of native grasses (Table 110.1). Prior to revegetation, water bars will be cut diagonally across the road to maintain drainage patterns and conduct stormwater runoff from the road surface to minimize erosion. All haul roads will remain within property limits and will be reclaimed after they are no longer needed for any use.

Reclamation of highwalls

High walls that are created during mining operations and are to be left post use of the Facility are to be reclaimed to agency and industry standards. The overall slope of the high walls will not exceed 45 degrees (1h:1v). To achieve this overall slope of 45 degrees, Geneva will mine the site with a forty foot angled highwall with a twenty-five foot bench between highwalls. This mining practice ensures slope stability for the highwalls. The following paragraphs provide more detail.

A) Reclamation of highwalls and slopes

The exposed highwall resulting from mining activities will be terraced while mining is in progress to provide an overall slope of 1.03H:1.0V from the toe to the crest as shown in Figure 110.2-1. Typical benches will be 40 feet high and 23 feet across, with the intermediate slopes at 0.5H:1.0V. Safety berms 5 feet wide and 2 feet high will be constructed along the outer edge of each bench using base rock material

(Figure110.2-2). Scavenged topsoil will be distributed on the benches and berms as described in Section 110.5 and seeded with the seed mix described in Table 110.5-1....

B) Reclamation of impoundments, pits and ponds

Two stormwater retention ponds will be excavated to retain all stormwater on site during the operational life of the mine. No berms or dams will be used for the impoundments. No impoundments for storing wash water or process water will be constructed as no such activities are proposed for this site. Impoundments or ponds required for stormwater management during mining activities will be reclaimed by backfilling the excavations to prevent impoundment of stormwater after mining, and re-vegetating the area with native grasses described in Table 110.1. Scavenged topsoil and sediment periodically removed from the ponds will be distributed and left in a roughened state as described in section 110.5.

Natural drainage patterns will be re-established to conduct runoff through the site. Beginning at the upstream end of the Metz Hollow drainage as it enters the property, flow will be channeled over the terrace slopes where the terraces angle to the south at the eastern portion of the site (Figures 110.2-1, 110.2-2, and 110.2-3). A plunge-pool structure has been designed for the base of the terrace drop channel. This will be constructed by blasting to a depth of 20 feet to fracture the pit floor to the lateral extend shown in the figures, and then excavated to the design dimensions. As the re-established channel in the benches and pit floor will be cut into bedrock, no armoring should be needed. An armored outlet structure will be located at the south property boundary and is shown in Figure 110.2-3. The channel cross-section is provided in Figure 110.2-3. The remainder of the pit floor will receive scavenged topsoil, then graded and revegetated with native grasses.

C) Equipment, buildings and other structures

There are no permanent buildings or structures proposed for the site. There is a portable scalehouse and scale, an office trailer and an above-ground storage tank with spill containment, as well as several conveyors and sizing equipment. All structures and equipment will be removed from the site to be used elsewhere or disposed of offsite upon completion of mining activities and before reclamation is complete.

110.3: Description of surface facilities that will be left as part of the post mining land use.

All surface facilities on site will be removed at the termination of mining. No facilities or structures will remain on site.

110.4: Treatment, location, and disposition of any deleterious or acid-forming materials.

There are no known naturally-occurring deleterious materials on the site. This is a limestone-based gravel mining operation that will not be liberating any toxic or acid-forming materials requiring neutralization. All man-made structures, trash and other

waste will be removed and disposed of at a local sanitary landfill or other appropriate facility.

110.5: Plant program for revegetation.

A) Soil Material Replacement

This site has very little native topsoil above the underlying rock, generally less than 1 foot deep. Much of the sloped area consists of exposed bedrock with no topsoil at all. Existing topsoil will be scavenged where possible and stockpiled on site. Sediment periodically removed from the sediment ponds will be added to the scavenged topsoil to increase available supply.

The proposed volume of soil to be distributed is based on a restoration of pre-mining soil depth of 0.5 ft. The total volume of soil to be distributed is approximately 27,000 cubic yards. The areas to be revegetated are shown in Figure 110.5-1. Due to the variability of native soil depth, the 27,000 cubic yards is an estimate of anticipated top soil availability. The site will be reclaimed using a bottom to top approach; starting at the pit floor and haul road and moving up to the benches. This pattern will continue, moving to higher benches, until the available top soil is exhausted.

B) Seed Bed Preparation

After distribution, the topsoil will be ripped using a dozer. The haul road will be cut into bedrock, so the depth of scarification will be the depth of soil applied. Ripping will be conducted along contours to minimize erosion potential.

C) Seed Mixture

The seed mixture recommended by the Department and will be used by Granite is as follows:

Table 110.5-1: Seed Mixture

Species Name	Common Name	Seed Rate Lbs Pure Live Seed/Acre
Agropyron elongatum	Tall Wheatgrass	1.0
Agropyron spicatum	Bluebunch Wheatgrass	2
Dactylis glomerata 'Piute'	'Piute' Orchard Grass	0.5
ELymus cinereus 'Magnar'	'Magnar' Basin Wildrye	2.0
Agropyron cristatum 'Ephraim'	'Ephraim' Crested Wheatgrass	0.5
Medicago sativa	Ladak Alfalfa	0.5
Melilotus officinalis	Yellow Sweetclover	0.5
Penstemon palmerii	Palmer Pentemon	0.5

Sanguisorba minor	Small Burnet	1.5
Artemisia tridentate vaseyana	Mountain Big Sagebrush	0.1
Chrysothamnus nauseosus	Rubber Rabbitbrush	0.25
Kochia prostrate	Forage Kochia	0.5
Purshia tridentate	Bitterbrush	1
	Total	10.85

D) Seeding Method

Revegetation will be performed in the autumn depending on site specific conditions. The method of choice is to use broadcast on the pit floor and lower terraces, where readily accessible. In the event this method proves unfeasible the seed mixtures will be applied using hydro-seeding methods.

E) Fertilization

Composted manure or biosolids will be applied at the rate of 10 ton/acre also using broadcast seeding methods. This will serve as both a soil amendment and cover mulch.

F) Other Revegetation Procedures

No other revegetation procedures are proposed for this site at this time.

110.6: Statement that the operator will conduct reclamation as required by these rules.

Geneva will adhere to the rules set forth by the Division of Oil, Gas, and Mining (DOGM) and as stated in this Notice of Intent (NOI) for the Morgan Quarry. Geneva has developed this reclamation plan for the facility and as stated in section 110.1-5 of this NOI. If the need arises to amend this plan with DOGM, Geneva will notify DOGM of its intentions and will not proceed until agreed upon by DOGM.

R647-4-111 – Reclamation Practices

Reclamation practices will be conducted in a manner similar to those outlined in section R647-4-107 and R647-4-110. Geneva, its subsidiaries, and subcontractors do no make a distinction between operating practices and reclamation practices. Safety, as well as public welfare, are always a top priority and taken into consideration during any type of activity. The following subsections are reiterations of previous sections and restated for informational purposes.

Geneva also acknowledges the Division of Oil, Gas, and Mining's (DOGM) Pratical Guide to Reclamation in Utah, and is incorporated into this NOI by reference.

R647-4-112 – Variance

Geneva is not requesting a variance to the Division of Oil, Gas, and Mining's regulations. If a variance is needed in the future, Granite will request that variance as an amendment to this Notice of Intent.

R647-4-113 – Surety

Geneva has determined the following surety in the amount of $450,000 to cover DOGM's cost in the event of bond forfeiture for the entire 38 acres. The calculations are located in Appendix H. This amount was calculated based on data provided by the Department, the Caterpillar Handbook, R.S. Means, Equipment Watch's Blue Book Values, and Rental Rates provided by Caterpillar.

R647-4-114 – Failure to Reclaim

Geneva acknowledges DOGM's right to reclaim this property in lieu of bond forfeiture in accordance with this section.

R647-4-115 – Confidential Information

Geneva holds the Cultural Resources Inventory conducted by Sagebrush Environmental located in Appendix G as confidential.

R647-4-116 – Public Notice and Appeals

Geneva acknowledges the public notice and appeals section of DOGM's requirements.

R647-4-117 – Notification of Suspension or Termination of Operations

Geneva will provide the Division written notifications for suspension greater than two (2) years and as otherwise outlined in this provision.

R647-4-118 – Revisions

Geneva will provide the Division with the appropriate notifications and forms in the event this Notice of Intent needs revision and will not adjust operations according to that revision until notified by the Division the revisions have been approved.

R647-4-119 – Amendments

Geneva will notify the Division of any amendments necessary to this Notice of Intent consistent with the requirement of the Revisions section of this requirement. It is the Division that will notify Geneva of the significance and whether it is an amendment or revision.

R647-4-120 – Transfer of Notice of Intent

Geneva will file an application in the event it wishes to transfer a Notice of Intent.

R647-4-121 – Reports

Geneva will file reports consistent with the requirements of this provision.

R647-4-122 – Practices and Procedures; Appeals

Geneva acknowledges the rules set forth by this regulation.

REFERENCES

United States Department of Agriculture Natural Resources Conservation Service, *Custom Soil Resource Report for Morgan Area, Utah – Morgan County and Part of Weber County, Blue Rock Quarry,* 1974; Soil Survey Staff,. Available online at http://websoilsurvey.nrcs.usda.gov/ accessed February 25, 2009

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Utah Department of Natural Resources, Water Rights Division; 1636 West North Temple, Salt Lake City, Utah; (801) 538-7240; http://nrwrt1.nr.state.ut.us.

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https://fs.ogm.utah.gov/pub/MINES/Coal_Related/RecMan/Reclamation_Manual.pdf

APPENDIX A

Surrounding Land Owners

APPENDIX B

Maps and Drawings

APPENDIX C

Process Flow Diagram and Plant Layout

APPENDIX D

Estimated Acreage Disturbance and Annual Production

APPENDIX E

Soil Report and Photos

APPENDIX F

Accident Prevention Program

APPENDIX G

Permits, Plans, and Agency Approvals

APPENDIX H

Bond Calculation